Lockheed Martin Space Systems Michoud Operations



# Hurricane Katrina NASA Michoud Assembly Facility EAP Lessons Learned

A Wishful Journey

#### MAF EAP Lessons Learned

- Introduction
- Lessons as an employee victim
  - Employee data
- Planning
  - Logistical
  - Resources
  - Leadership
  - Human Recovery
  - EAP/CISM Team Support
- Summary

# The First 7 Days Following Katrina



August 30 – September 5











Areas all around Michoud were dealing with flooding

#### **Hurricane Katrina Makes Landfall**

Monday, August 29

#### Michoud Impact

- Facility buffeted by 150 mph winds and 14 inches of rain
- •20-foot storm surge blown by winds over levees on two sides of the facility
- Personnel remained on station pumping over one billion gallons of water off the facility
- •Michoud Facility surrounded by water
- Facility lost basic utilities

  Power Phone Water Sewer
- Roof damage to several buildings







# Lessons as an employee victim

#### MAF Employee Homes

<ul> <li>Total loss/unlivable</li> </ul>	31.9%
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• Repairable/currently unlivable 15.3%

Damaged/livable\*
 44.8%

No damage/livable 6.3%

• Unknown 1.7%

# Lessons as an employee victim

#### MAF Employee or Family Members

Injuries

1.5%

Deaths (family members) 1.8%

Other losses

#### Wishes: Logistical

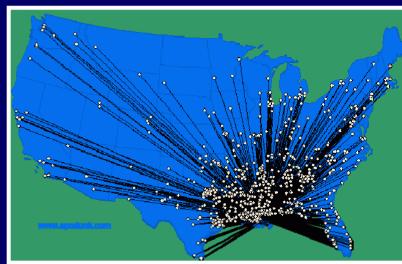
- List of important phone numbers (EOC, etc.)
- Non-local area code cell phone
- Laptop computer
- Wireless card
- Flash Drive/CD: critical CISM information
- Pre-set online/telecon meeting date/time





# Planning Wishes: Resources

- CISM Team
  - Training
    - Understanding of support phases
  - Budget
  - Quarterly meetings, drills/practice
  - Contacts card
  - Pre-prepared disaster specific handouts





#### Wishes: Resources (cont'd.)

- Stand-by Support Options
  - NASA Agency-Wide Plan
    - Mutual aid plan between NASA Centers and Contractors (revision to Center EOP)
    - Sharing of work and personal phone numbers
       & e-mail addresses
    - Community Professionals (by location)
      - Ensure trained in CISM
      - Familiarity with NASA Center population

Wishes: Resources (cont'd.)

- Stand-by Support Options (cont'd.)
  - NASA Agency-Wide Plan
    - Train identified personnel in Psychological First Aid (e.g. CISM Team, Ride-Out Team, Initial Recovery Response Team, etc.)

#### Wishes: Leadership

- Emergency Business Continuity Plan (all directorates)
  - Clear lines of responsibilities
- Training (Executive team, HR, EOC)
  - RTW Conversations/Scripts
  - CISM Plan
  - EAP Crisis Response Plan
  - Leading the Workforce After a Disaster
    - Long-term nature of psychological recovery
    - Teach them "mosey leadership"

#### Wishes: Leadership (cont'd.)

- Ride-Out TeamLeadership
  - Death notification
  - Psychological impac
    - Signs to look for
  - Psychological First And
  - Provisions for various medical care, including chemical restraint
  - Self-Care



#### Wishes: Human Recovery

- Large-scale Disaster
  - Disaster as a process; not an event
  - Challenges
    - Evacuation (transportation, shelter, medication, aging relatives)
    - Communication
    - Loss/grief (house/apt., personal belongings, financial, spouse's job, community, support systems, death of loved ones)

### Wishes: Human Recovery (cont'd.)

- Large-scale Disaster
  - Challenges (cont'd.)
    - Community stressors (lack of infrastructure in community at large, overcrowded community, lack of government support, slow rebuilding process)
    - Housing (needs assessment, housing fairs)
    - Health/Well-being (self and family, esp. aging)
      - Mental: concentration/focus, attention to detail, memory, word-finding problems
      - Physical: vague complaints, sleep/fatigue, weight
      - Psychological: PAS, Depression, anxiety, PTSD, suicidal
      - Spiritual: anger, hopelessness, helplessness

# Planning Wishes: Human Recovery (cont'd.)

- Challenges (cont'd.)
  - Work
    - RTF
    - Contract
  - Financial
  - Relocation stress
    - Meaning of "home"
    - Separation of family

#### Wishes: Human Recovery (cont'd.)

- Psychological Impact
  - Post-disaster data on health and well-being
    - Adults, teens, children, elderly
  - Various immediate/initial, delayed and longterm reactions
  - Coping strategies taught, observed & learned
  - Phases of recovery
- Pre-existing Conditions and Events
  - Human toll
  - Resiliency fatigue

#### Wishes: Human Recovery (cont'd.)

- New world of constant change
  - Coping skills
  - Resiliency (starting over, moving on)

### Wishes: CISM Team Support

- Support/Coverage
- Long-term support (large-scale incidents)
- Team members as victims

# Summary

#### Wishes

- Past
  - The "shoulda's, coulda's" bring new learning
- Present
  - Share new learning
  - Flexibility, flexibility, flexibility
- Future
  - Use the "wish" concept and list(s) as a continuing brainstorming tool

# Hurricane Katrina MAF EAP Lessons Learned

It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change ---Charles Darwin

